

## ABSTRACT

In a radiation image pickup device including: a sensor element for converting radiation into an electrical signal; and a thin film transistor  
5 connected to the sensor element, an electrode of the sensor element connected to the thin film transistor is disposed above the thin film transistor, and that the thin film transistor has a top gate type structure in which a semiconductor layer, a gate  
10 insulating layer, and a gate electrode layer are laminated in this order on a substrate, so that a channel portion of the thin film transistor is protected by a gate electrode, thereby providing stable TFT characteristics without undesirable  
15 turning ON any of the TFT elements due to the back gate effect by the fluctuation in electric potentials corresponding to outputs from the sensor electrodes, and thereby greatly improving image quality.